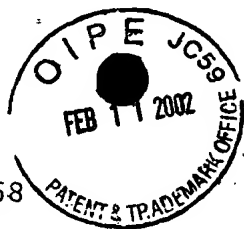


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Filed: 3/28/01



WO 00/21998

PCT/IB99/01621

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<110> Hoechst Marion Roussel

<120> MATURE PROTEIN HAVING ANTAGONIST ACTIVITY AGAINST BONE  
MORPHOGENETIC PROTEIN.

<130> JH98K011 PCT SEQUENCES IN ENGLISH

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<150> 10-288103

<151> 1998-10-09

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<170> PatentIn Ver. 2.1

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<223> Mature MP52

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<301> MAKISHIMA, Fusoa  
TAKAMATSU, Hiroyuki  
MIKI, Hideo  
KAWAI, Shinji  
KIMURA, Michio  
MATSUMOTO, Tomoaki  
KATSUURA, Mieko  
ENOMOTO, Koichi

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SATOH, Yusuke

<302> Novel protein and process for producing the same.

<310> WO 96/33215

<312> 1996-1-0-24

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35 40 45

Gly Leu Cys Glu Phe Pro Leu Arg Ser His Leu Glu Pro Thr Asn His  
50 55 60

Ala Val Ile Gln Thr Leu Met Asn Ser Met Asp Pro Glu Ser Thr Pro  
65 70 75 80

Pro Thr Cys Cys Val Pro Thr Arg Leu Ser Pro Ile Ser Ile Leu Phe  
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<301> WOZNEY, John M.  
ROSEN, Vicki  
CELESTE, Anthony J.  
MITSOCK, Lisa M.  
WHITTERS, Matthew J.  
KRIZ, Ronald W.  
HEWICK, Rodney M.  
WANG, Elizabeth A.

<302> Novel regulators of bone formation molecular clones  
and activities.

<303> Science

<304> 242

<305> 4885

<306> 1528-1534

<307> 1988-12-16

<308> Genbank/M22490

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Trp Ile Val Ala Pro Pro Gly Tyr Gln Ala Phe Tyr Cys His Gly Asp  
35 40 45

WO 00/21998

PCT/IB99/01621

5

Cys Pro Phe Pro Leu Ala Asp His Leu Asn Ser Thr Asn His Ala Ile  
50 55 60  
Val Gln Thr Leu Val Asn Ser Val Asn Ser Ser 71 e Pro Lys Ala Cys  
65 70 75 80  
Cys Val Pro Thr Glu Leu Ser Ala Ile Ser Met Leu Tyr Leu Asp Glu  
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<301> OZKAYNAK, Engin

RUEGER, David C.

DRIER, Eric A.

CORBETT, Clare

RIDGE, Richard J.

SAMPATH, Kuber T.

OPPERMANN, Hermann

<302> OP-1 cDNA encodes an osteogenic protein in the TGF-beta family.



&lt;210&gt; 5

&lt;211&gt; 119

&lt;212&gt; PRT

&lt;213&gt; Human

&lt;220&gt;

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&lt;222&gt; (1)..(119)

<223> Mature MP52 protein. Note : 30th, 71st, 74th and  
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Arg	Cys	Ser	Arg	Lys	Ala	Leu	His	Val	Asn	Phe	Lys	Asp	Met	Gly	Trp
			20					25					30		

Asp	Asp	Trp	Ile	Ile	Ala	Pro	Leu	Glu	Tyr	Glu	Ala	Phe	His	Cys	Glu
		35					40					45			

Gly	Leu	Cys	Glu	Phe	Pro	Leu	Arg	Ser	His	Leu	Glu	Pro	Thr	Asn	His
	50					55					60				

Ala	Val	Ile	Gln	Thr	Leu	Met	Asn	Ser	Met	Asp	Pro	Glu	Ser	Thr	Pro
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Pro	Thr	Cys	Cys	Val	Pro	Thr	Arg	Leu	Ser	Pro	Ile	Ser	Ile	Leu	Phe
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Ile	Asn	Ser	Ala	Asn	Asn	Val	Val	Tyr	Lys	Gln	Tyr	Glu	Asp	Met	Val
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<223> Mature MP52 protein. Note :32nd and 35th Trp are  
modified to allylsulphenyl Trp.

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Pro Leu Ala Thr Arg Gin Gly Lys Arg Pro Ser Lys Asn Leu Lys Ala  
1 5 10 15

Arg Cys Ser Arg Lys Ala Leu His Val Asn Phe Lys Asp Met Gly Trp  
20 25 30

Asp Asp Trp Ile Ile Ala Pro Leu Glu Tyr Glu Ala Phe His Cys Glu  
35 40 45

Gly Leu Cys Glu Phe Pro Leu Arg Ser His Leu Glu Pro Thr Asn His  
50 55 60

Ala Val Ile Gin Thr Leu Met Asn Ser Met Asp Pro Glu Ser Thr Pro  
65 70 75 80

Pro Thr Cys Cys Val Pro Thr Arg Leu Ser Pro Ile Ser Ile Leu Phe  
85 90 95

Ile Asp Ser Ala Asn Asn Val Val Tyr Lys Gin Tyr Glu Asp Met Val  
100 105 110

Val Glu Ser Cys Gly Cys Arg  
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